

Sealing device for a Radial Swivel Motor

Patent Claims

1. A sealing device for a radial swivel motor, whereby the swivel motor includes a stator (1) with at least one stator wing and a rotor (2) with at least one rotor wing (8), which form at least one sealing chamber and one inlet chamber and which are equipped with a sealing device (19) each for sealing in the inward direction, whereby each said sealing device (19) is pressed into a mounting groove (18) of said rotor wing (8) and of said stator wing and includes outer rigid sealing elements (21, 22, 23, 24) and a pretension element made of an elastomer connecting said outer rigid sealing elements (21, 22, 23, 24) to one another, characterized in that the pretension element is designed as a soft sealing element (20) and said outer rigid sealing elements (21, 22, 23, 24) have a multipart design, whereby said soft sealing element (20) and said rigid sealing elements (21, 22, 23, 24) are connected undetachably to one another, the circumferential sealing surfaces of said rigid sealing elements (21, 22, 23, 24), in the unloaded state, end flush with the sealing surface of said soft sealing element (20), said rigid sealing elements (21, 22, 23, 24) are spaced apart from one another by at least one radial compensating groove (25) and at least one said axis-parallel compensating groove (26), and said compensating grooves (25, 26) are arranged on both sides of said sealing device, such that said compensating grooves (25, 26) on one side are not overlapped by said compensating grooves (25, 26) on the other side.

2. A sealing device in accordance with claim 1, characterized in that said soft sealing element (20) and said rigid sealing elements (21, 22, 23, 24) are dimensioned in length and depth and coordinated to one another such that they remain in said widely reduced compensating grooves (25, 26) even after the assembly of said sealing device (19).

3. A sealing device in accordance with claim 1, characterized in that said soft sealing element (20) consists of such an elastomer and has such dimensions that the pretension resulting therefrom is greater than the contraction of said soft sealing element (20) and said rigid sealing elements (21, 22, 23, 24) resulting from a reduction in temperature.

5 4. A sealing device in accordance with claim 1, characterized in that said radial compensating gap (25) and said axis-parallel compensating gap (26) are designed as compressed-oil-carrying channels and are connected to the respective sealing chamber of the swivel motor.

5. A sealing device in accordance with claim 1, characterized in that said soft sealing element (20) and said rigid sealing elements (21, 22, 23, 24) are connected to one another by bonding or by
10 vulcanization.